

REMARKS

This Amendment is fully responsive to the final Office Action dated July 21, 2011, issued in connection with the above-identified application. Claims 15, 21, 22 and 24-30 are pending in the present application. With this Amendment, claims 15, 21, 22 and 26-29 have been amended. No new matter has been introduced by the amendments made to the claims. Favorable reconsideration is respectfully requested.

In the Office Action, claims 15, 21, 22, 24 and 26-30 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Noburo et al. (JP 2002-232809, hereinafter “Noburo”) in view of Boyce et al. (U.S. 2006/0126733, hereinafter “Boyce”), and further in view of Iwata et al. (U.S. 2002/0071056, hereinafter “Iwata”).

The Applicants have amended independent claims 15 and 26-28 to more clearly distinguish the claimed invention from the cited prior art. For example, independent claim 15 (as amended) recites *inter alia* the following features:

“[a] broadcast receiving apparatus, comprising:...

a decoder which alternately decodes the first TV broadcast signal and the second TV broadcast signal timeshared by and outputted from the timesharing unit;

a detector which detects a decoding error part of the first TV broadcast signal decoded by the decoder with respect to each frame, and generates a decoding error information, with respect to each frame, including error information and a presentation time stamp attached to the frame;

a synthesizer which specifies the decoding error part of the first TV broadcast signal based on the error information in the decoding error information generated by the detector, specifies a frame of the second TV broadcast signal of which a time is the same as that of the decoding error part based on the presentation time stamp, and generates a composite signal obtained by replacing the decoding error part of the first TV broadcast signal with a corresponding part in the specified frame of the second TV broadcast signal decoded by the decoder;

a first storage device which stores the composite signal outputted from the synthesizer;
and

a second storage device which stores the second TV broadcast signal decoded by the decoder,

wherein the decoder decodes the second TV broadcast signal and the first TV broadcast signal in this order with respect to frames having a presentation time stamp identical to each other, and stores, before the detector detects the decoding error part of the first TV broadcast signal, the part of the second TV broadcast signal corresponding to the decoding error part of the first TV broadcast signal in the second storage device, and

the synthesizer stores the first TV broadcast signal decoded by the decoder in the first storage device if the detector has not detected the decoding error part of the first TV broadcast signal, and reads out the part of the second TV broadcast signal corresponding to the decoding error part from the second storage device and stores the readout part in the first storage device if the detector has detected the decoding error part of the first TV broadcast signal.” (Emphasis added).

The features emphasized above in independent claim 15 are similarly recited in independent claims 26-28 (as amended). Additionally, the features emphasized above in independent claim 15 (and similarly recited in independent claims 26-28) are fully supported by the Applicants’ disclosure (see e.g., Pg. 16, lines 24-27; and Pg. 18, lines 9-18).

The present invention (as recited in independent claim 15) is distinguished from the cited prior art in that a broadcast receiving apparatus includes a decoder that decodes the second TV broadcast signal and the first TV broadcast signal in this order with respect to frames having presentation time stamps identical to each other, and stores, before a detector detects a decoding error part of the first TV broadcast signal, the part of the second TV broadcast signal corresponding to the decoding error part of the first TV broadcast signal in the second storage device. The features noted above with reference to independent claim 15 are similarly recited in independent claims 26-28.

With the present invention (as recited in independent claim 15 and 26-28), when a decoding error part of the first TV broadcast signal is detected, a synthesizer can quickly read out and store in a first storage device the part from the second storage device corresponding to the error part of the first TV broadcast signal because the part of the second TV broadcast signal corresponding to the decoding error part is already decoded and stored in a second storage device. Thus, the decoder and the synthesizer work more efficiently together to store the composite signal in which the decoding error part has been replaced in the first storage device.

In the Office Action, although the Examiner relies on the combination of Noburo,

Boyce and Iwata for disclosing all the features recited in independent claims 15 and 26-28, the Examiner relies specifically on Noburo for disclosing or suggesting the features of the decoder, decoding step, decoding means and decoding circuit recited respectively in independent claims 15 and 26-28. In particular, the Examiner relies on ¶[0006], ¶[0010], ¶[0011], ¶[0014], ¶[0015] and ¶[0023] of Noburo. The most relevant portions of ¶[0006], ¶[0010], ¶[0011], ¶[0014], ¶[0015] and ¶[0023] of Noburo are discussed below.

Noburo in ¶[0006] discloses that a demodulator outputs first and second image stream data from a received wave. A first decoder and a second decoder then decode the first and second image stream data, respectively, and output first and second picture signals. Additionally, a sensing device detects the position of an error contained in the first picture signal and an amended picture signal which corresponds to the position of the error in the first picture signal detected by the sensing device from the second picture signal. A synthesizer combines the first picture signal and the amended picture signal to create a synthetic picture signal.

Noburo in ¶[0011] discloses that a synthetic picture signal can also be obtained from the second picture signal. Noburo in ¶[0014] discloses that the demodulator recovers two image stream data S1 and S2 from a received wave, wherein the image stream data S1 is outputted to one decoder 21 and image data stream S2 is outputted to another decoder 22. Each decoder 21, 22 decodes the corresponding image data stream and output a corresponding picture signal.

Noburo in ¶[0015] discloses that a sensing device detects an error in picture signal I1 and outputs the position information (i.e., pixel position). The synthesizer unit then combines the picture signal I1 with an amended picture signal IA to form a synthetic picture signal IC.

Conversely, independent claim 15 recites:

“the decoder decodes the second TV broadcast signal and the first TV broadcast signal in this order with respect to frames having a presentation time stamp identical to each other, and stores, before the detector detects the decoding error part of the first TV broadcast signal, the part of the second TV broadcast signal corresponding to the decoding error part of the first TV broadcast signal in the second storage device.” The features noted above with reference to independent claim 15 are similarly recited in independent claim 26-28.

As noted above, in Noburo (i.e., ¶[0006] and ¶[0014]), image stream data S1, S2 are separately decoded using the two decoders 21, 22. Thus, it is not necessary for the decoders 21, 22 to consider the timing of the decoding operation being performed by the other decoder. On

the other hand, with the present invention (as recited in independent claims 15 and 26-28), the decoder decodes the second TV broadcast signal and the first TV broadcast signal in this order with respect to frames having a presentation time stamp identical to each other.

Additionally, nothing in Noburo (i.e., ¶¶0006, ¶¶0010, ¶¶0011, ¶¶0014, ¶¶0015) and ¶¶0023) discloses or suggests that the decoders 21 and 22 store, before a detector detects the decoding error part of a first TV broadcast signal, the part of a second TV broadcast signal corresponding to the decoding error part of the first TV broadcast signal in the second storage device.

In fact, Noburo (e.g., ¶0006) only discloses that a sensing device detects the position of an error contained in the first picture signal and an amended picture signal which corresponds to the position of the error in the first picture signal detected by the sensing device from the second picture signal.

Noburo (i.e., ¶¶0006, ¶¶0010, ¶¶0011, ¶¶0014, ¶¶0015) and ¶¶0023) clearly fails to disclose or suggest a decoder that decodes a second TV broadcast signal and a first TV broadcast signal in this order with respect to frames having a presentation time stamp identical to each other; and a decoder that stores, before a detector detects the decoding error part of the first TV broadcast signal, the part of the second TV broadcast signal corresponding to the decoding error part of the first TV broadcast signal in the second storage device, as recited in independent claim 15. The features noted above with reference to independent claim 15 are similarly recited in independent claim 26-28.

Accordingly, Noburo (i.e., ¶¶0006, ¶¶0010, ¶¶0011, ¶¶0014, ¶¶0015) and ¶¶0023) cannot provide the same advantages of the present invention (as recited in independent claims 15 and 26-28). That is, when a decoding error part of the first TV broadcast signal is detected, the synthesizer can quickly read out and store in the first storage device the part from the second storage device corresponding to the error part of the first TV broadcast signal because the part of the second TV broadcast signal corresponding to the decoding error part is already decoded and stored in the second storage device.

As noted above, Boyce and Iwata are not relied on by the Examiner for disclosing or suggesting the features of the decoder, decoding step, decoding means and decoding circuit recited respectively in independent claims 15 and 26-28. And, based on the deficiencies noted above in Noburo, no combination of Noburo, Boyce and Iwata, would result in, or otherwise

render obvious, all the features recited in independent claims 15 and 26-28 (as amended). Likewise, no combination of Noburo, Boyce and Iwata, would result in, or otherwise render obvious, claims 21, 22, 24, 29 and 30 at least by virtue of their dependencies from independent claims 15.

In the Office Action, claim 25 is rejected under 35 U.S.C. §103(a) as being unpatentable over Noburo in view of Boyce, Iwata, and further in view of Shikakura (U.S. 6,108,379, hereinafter “Shikakura”).

Claim 25 depends from independent claim 15. As noted above, Noburo, Boyce and Iwata fail to disclose or suggest all the features recited in independent claim 15. Moreover, Shikakura fails to overcome the deficiencies noted above in Noburo, Boyce and Iwata. Accordingly, no combination of Noburo, Boyce and Iwata with Shikakura would result in, or otherwise render obvious, claim 25 at least by virtue of its dependency on independent claim 15.

In light of the above, the Applicants submit that all the pending claims are patentable over the prior art of record. The Applicants respectfully request that the Examiner withdraw the rejections presented in the outstanding Office Action, and pass the present application to issue. The Examiner is invited to contact the undersigned attorney by telephone to resolve any issues remaining in the application.

Respectfully submitted,

Tsuyoshi ISOMURA et al.

/Mark D. Pratt/

By 2011.10.21 11:42:05 -04'00'

Mark D. Pratt

Registration No. 45,794

Attorney for Applicants

MDP/lkd
Washington, D.C. 20005-1503
Telephone (202) 721-8200
Facsimile (202) 721-8250
October 21, 2011